LISTING OF CLAIMS

1. (Original) A detonation initiator comprising:

a linear actuator assembly having a core with a permanent magnet disposed with respect to a coil, and a firing pin coupled to the core and disposed along a longitudinal axis of the linear actuator assembly;

a capacitor for storing electrical energy derived from an electrical pulse received by the detonation initiator; and

an electrical circuit for monitoring charge on the capacitor and discharging the capacitor through the coil of the linear actuator assembly to propel the core along the longitudinal axis of the linear actuator assembly when the charge on the capacitor reaches a charge threshold.

2. (Original) The detonation initiator according to claim 1, wherein the linear actuator assembly further includes a bearing guide in which the coil and core are disposed, the bearing guide retaining linear bearings adjacent an exterior of the core.

3. (Original) The detonation initiator according to claim 1, wherein the linear actuator assembly further includes a means to retract the core to a starting position following propulsion of the core.

4. (Original) The detonation initiator according to claim 1, wherein the coil is secured to a housing of the detonation initiator to minimize movement of the coil with respect to the housing during propulsion of the core.

5. (Original) The detonation initiator according to claim 1, further comprising a receptacle for receiving a chemical energy propagation assembly.

6. (Original) The detonation initiator according to claim 5, wherein propulsion of the core results in direct physical contact of the firing pin with a primer of the chemical energy propagation assembly.

7. (Original) The detonation initiator according to claim 1, wherein the electrical pulse is output by a receiver in response to a detonation signal transmitted to the receiver.

8. (Original) The detonation initiator according to claim 1, wherein the electrical pulse is input via at least one terminal that is coupled to the capacitor without a current limiting component.

9. (Original) The detonation initiator according to claim 1, wherein the electrical circuit includes a digital logic gate for comparing the charge of the capacitor with a voltage used to power the digital logic gate.

10. (Original) The detonation initiator according to claim 9, wherein the charge threshold is represented by a portion of a voltage divider connected in parallel with the capacitor.

11. (Original) The detonation initiator according to claim 9, wherein the digital logic gate drives a transistor to allow conduction of the charge stored by the capacitor through the coil.

12. (Original) The detonation initiator according to claim 9, wherein operational power for the electrical circuit is derived from the electrical pulse.

13. (Original) The detonation initiator according to claim 1, wherein operational power for the electrical circuit is derived from the electrical pulse.

14. (Original) The detonation initiator according to claim 1, wherein the electrical pulse has a voltage of about 50 volts to about 54 volts and lasts for less than ten seconds.

15. (Original) The detonation initiator according to claim 1, wherein the charge threshold is selected such that the capacitor takes at least half of the duration of the electrical pulse to reach the charge threshold.

16. (Original) The detonation initiator according to claim 1, wherein the electrical circuit includes a component to adjust the charge threshold based on ambient temperature.

17. (Withdrawn) A demolition assembly comprising:

the detonation initiator of claim 1; and

a receiver for outputting the electrical pulse in response to a detonation signal transmitted to the receiver.

18. (Withdrawn) The demolition assembly according to claim 17, further comprising a chemical energy propagation assembly connected to the ~~shock tube~~ detonation initiator, the chemical energy propagation assembly being activated by propulsion of the core.

19. (Withdrawn) The demolition assembly according to claim 18, wherein the chemical energy propagation assembly is a shock tube assembly having a primer, a shock tube and a blasting cap, the shock tube having a proximal end connected to the primer and a distal end connected to the blasting cap.

20. (Withdrawn) The demolition assembly according to claim 17, further comprising an explosive charge connected to the detonation initiator by a chemical energy propagation assembly.